

**WHAT IS CLAIMED IS:**

1. A system, comprising:
  - 5 a node including an active device, a memory, an interface, and an address network configured to convey address packets between the active device, the memory, and the interface;
  - an additional node coupled to send a coherency message requesting write access
  - 10 to a coherency unit to the interface via an inter-node network;
  - wherein in response to receiving the coherency message, the interface is configured to send an address packet on the address network, wherein the interface is configured to encode a node identification of the additional
  - 15 node in the address packet;
  - wherein in response to the address packet, the memory is configured to update an indication associated with the coherency unit to indicate that the coherency unit is in a modified global access state in the additional node;
  - 20 wherein the active device is configured to invalidate an access right to the coherency unit in response to the address packet.
2. The system of claim 1, wherein the address packet is a proxy invalidate packet,
- 25 wherein the active device is configured to transition a read access right to an invalid access right upon receipt of the proxy invalidate packet.
3. The system of claim 2, wherein the interface is configured to send the proxy invalidate packet in response to the coherency message indicating that an active device

included in the additional node has initiated a write stream transaction for the coherency unit.

4. The system of claim 1, wherein the address packet is a proxy invalidate modified packet, wherein if the active device has an ownership responsibility for the coherency unit, the active device is configured to send data corresponding to the coherency unit to the interface in response to receipt of the proxy invalidate modified packet, wherein the active device is configured to transition the access right to an invalid access right upon sending the data.

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5. The system of claim 1, wherein the address packet is a proxy read-to-own packet, wherein the active device is configured to transition a read access right to the coherency unit to an invalid access right upon receipt of the proxy read-to-own packet.

15 6. The system of claim 1, wherein the address packet is proxy read-to-own modified packet, wherein if the active device has an ownership responsibility for the coherency unit, the active device is configured to send data corresponding to the coherency unit to the interface in response to receipt of the proxy read-to-own modified packet, wherein the active device is configured to transition the access right to an invalid access right upon sending the data.

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7. The system of claim 6, wherein the interface is configured to send the proxy invalidate modified packet in response to the coherency message indicating that an active device included in the additional node has initiated a read-to-own transaction for the coherency unit, and wherein the interface is configured to send data corresponding to the coherency unit to the additional node in response to receiving the data from the active device.

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8. The system of claim 1, wherein the interface includes a global information cache configured to store a node identifier modified global access state node for the coherency

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unit, wherein the interface is configured to update the node identifier to identify the additional node in response to receiving the coherency message.

9. The system of claim 1, wherein in response to receiving an additional coherency  
5 message from yet another node included in the system requesting an access right to the coherency unit, the interface is configured to send a coherency message to whichever node is identified by the indication in the memory.

10. A node for use in a multi-node computer system, the node comprising:  
10 a plurality of devices including a memory, an active device, and an interface configured to send and receive coherency messages on an inter-node network coupling nodes in the multi-node computer system;  
15 an address network configured to convey address packets between the plurality of devices;  
wherein in response to a coherency message identifying a coherency unit from an additional node on the inter-node network, the interface is configured to  
20 send an address packet on the address network, wherein the interface is configured to encode a node identification of the additional node in the address packet;  
wherein in response to the address packet, the memory is configured to update an  
25 indication associated with the coherency unit to indicate that the coherency unit is in a modified global access state in the additional node;  
wherein the active device is configured to transition an access right to the coherency unit in response to the address packet.

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11. The node of claim 10, wherein the address packet is a proxy invalidate packet, wherein the active device is configured to transition a read access right to an invalid access right upon receipt of the proxy invalidate packet.

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12. The node of claim 11, wherein the interface is configured to send the proxy invalidate packet in response to the coherency message indicating that an active device included in the additional node has initiated a write stream transaction for the coherency unit.

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13. The node of claim 10, wherein the address packet is a proxy invalidate modified packet, wherein if the active device has an ownership responsibility for the coherency unit, the active device is configured to send data corresponding to the coherency unit to the interface in response to receipt of the proxy invalidate modified packet, wherein the active device is configured to transition the access right to an invalid access right upon sending the data.

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14. The node of claim 10, wherein the address packet is a proxy read-to-own packet, wherein the active device is configured to transition a read access right to the coherency unit to an invalid access right upon receipt of the proxy read-to-own packet.

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15. The node of claim 10, wherein the address packet is proxy read-to-own modified packet, wherein if the active device has an ownership responsibility for the coherency unit, the active device is configured to send data corresponding to the coherency unit to the interface in response to receipt of the proxy read-to-own modified packet, wherein the active device is configured to transition the access right to an invalid access right upon sending the data.

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16. The node of claim 15, wherein the interface is configured to send the proxy invalidate modified packet in response to the coherency message indicating that an active

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device included in the additional node has initiated a read-to-own transaction for the coherency unit, and wherein the interface is configured to send data corresponding to the coherency unit to the additional node in response to receiving the data from the active device.

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17. The node of claim 10, wherein the interface includes a global information cache configured to store a node identifier modified global access state node for the coherency unit, wherein the interface is configured to update the node identifier to identify the additional node in response to receiving the coherency message.

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18. The node of claim 10, wherein in response to receiving an additional coherency message from yet another node included in the system requesting an access right to the coherency unit, the interface is configured to send a coherency message to whichever node is identified by the indication in the memory.

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19. A method of operating a multi-node computer system, wherein the multi-node computer system includes a node and an additional node coupled by an inter-node network, the method comprising:

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an interface within the node receiving via the inter-node network a first coherency message from the additional node, wherein the coherency message requests write access to a coherency unit;

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in response to said receiving, the interface encoding a node identification of the additional node in an address packet;

the interface sending the address packet on an address network within the node;

in response to said sending:

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a memory updating an indication associated with the coherency unit to indicate that the coherency unit is in a modified global access state in the additional node; and

5 an active device in the node transitioning an access right to the coherency unit.

20. The method of claim 19, wherein the address packet is a proxy invalidate packet, and wherein said transitioning includes the active device transitioning a read access right  
10 to an invalid access right upon receipt of the proxy invalidate packet.

21. The method of claim 19, wherein the address packet is a proxy invalidate modified packet, the method further comprising:

15 if the active device has an ownership responsibility for the coherency unit, the active device sending data corresponding to the coherency unit to the interface in response to receipt of the proxy invalidate modified packet;

wherein said transitioning includes the active device transitioning the access right  
20 to an invalid access right upon sending the data.

22. The method of claim 21, further comprising the interface sending the proxy invalidate modified packet in response to the coherency message indicating that an additional active device included in the additional node has initiated a write stream  
25 transaction.

23. The method of claim 19, wherein the address packet is a proxy read-to-own packet, wherein said transitioning includes the active device transitioning a read access right to the coherency unit to an invalid access right upon receipt of the proxy read-to-  
30 own packet.

24. The method of claim 19, wherein the address packet is proxy read-to-own modified packet, the method further comprising:

5 the active device sending data corresponding to the coherency unit to the interface in response to receipt of the proxy read-to-own modified packet if the active device has an ownership responsibility for the coherency unit;

10 wherein said transitioning includes the active device transitioning the access right to an invalid access right upon sending the data.

25. The method of claim 24, further comprising the interface sending the proxy invalidate modified packet in response to the coherency message indicating that an  
15 additional active device included in the additional node has initiated a read-to-own transaction.